WE CLAIM:

1. A process for the preparation of propylene glycol from propylene oxide, which process comprises:
(a) contacting propylene oxide with carbon dioxide in the presence of catalyst and in the substantial absence of water to obtain a first reaction mixture comprising propylene carbonate; and,
(b) contacting at least part of the first reaction mixture with water in the presence of catalyst to obtain a second reaction mixture comprising propylene glycol and carbon dioxide,
in which process a substantial amount of propylene oxide is present in step (b).

2. The process of claim 1, in which the molar ratio of propylene oxide to propylene carbonate in step (b) is from 0.01:1 to 1:1.

3. The process of claim 1, in which the propylene oxide present in the feed of step (a) is substantially fully converted to propylene carbonate, and which process further comprises adding additional propylene oxide in step (b).

4. The process of claim 1, in which from 60% to 99% of the propylene oxide present in the feed of step (a) is converted in step (a) to propylene carbonate.

5. The process of claim 1, in which propylene glycol is separated from the second reaction mixture.

6. The process of claim 1, in which process step (a) is carried out with a homogeneous catalyst and step (b) is carried out with a heterogeneous catalyst.

7. The process of claim 6, in which process the homogeneous catalyst for process step (a) is also present in step (b).

8. The process of claim 6, in which the propylene oxide present in the feed of step (a) is substantially fully converted to propylene carbonate, and which process further comprises adding additional propylene oxide in step (b).

9. The process of claim 6, in which from 60% to 99% of the propylene oxide present in the feed of step (a) is converted in step (a) to propylene carbonate.

10. The process of claim 6, in which propylene glycol is separated from the second reaction mixture.